

ANNUAL REPORT

Mineral Leases

155 – 156 – 157 – 158 – 159 – 160 – 161 - 162

HARTS RANGE REGION, N.T.
NORTHEAST CORNER - ALICE SPRINGS [SF 53-14] 1:250,000

FOR PERIOD

2017 - 2018

LICENCE HOLDER:

INMINERALS PTY LTD

9 Jan 2019

REPORT COMPILED BY:

INMINERALS PTY LTD

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1 SUMMARY

Following many years of exploration and characterization of the target, initially in EL6940 and subsequently and partially in EL9420, the ML's embodied in this report were applied over dry creek beds from close to the host being the Riddoch Amphibolite and flowing generally northwards towards the Plenty River. Exploration was focussed principally on detrital garnet and other industrial minerals in the sands of the creek bed.

Substantial systematic sampling efforts were undertaken throughout and subsequent detailed and bulk sampling, analysis and testing in part all demonstrate that the creek bed sands generally contain economic to moderately high grades of garnet.

The licensed area of the MLs is 586.50ha, with varying lengths and widths. While these ML's are individually small, when combined with Inminerals other ML's of the lower Spriggs, Upper Entire Creeks and the Lizzie Creek, they contribute to a world class garnet resource.

Sample intervals and methodology, appropriate for measured resource estimates, were provided by independent mining engineers and geological consultants and the sampling was performed accordingly.

Mineralogical examination of the garnet in the sands within the MLs indicates that the garnet is almost exclusively dominated by almandine ($\approx 60\%$)-pyrope ($\approx 30\%$)-grossular (up to 25%, but generally below 10%) solid solutions, and sourced from garnetiferous amphibolites.

From the limited garnet hardness testing carried out to date, these garnets are exceptionally hard, with Knoop hardnesses ranging from 1600 to 2000; they were the hardest garnets known to be currently commercially available at the time. Furthermore, the individual grains are quite fresh and show little if any sign of weathering; the grain morphologies are quite favourable, and leaching tests carried out on samples yield very low values of leachates.

As previously established, garnet grades close to the host in these ML's is high demonstrating large sharp comparatively clear crystals with few inclusions and meets or exceeds all internationally accepted garnet quality criteria.

Metallurgical testing on the two bulk samples programs, and the samples collected previously, assisted in the optimisation of separation techniques. Results to date serve not only to establish the viability of garnet production but have modified the envisaged processing stream to allow dry extraction of other industrial minerals if present in sufficient concentrations.

LOCATION AND ACCESS

The ML's are centred on the generally northwards flowing creek beds emanating off the Riddoch Amphibolite towards the generally eastward flowing Plenty River.

MLS 155 is Watson Creek Trib; MLS 156 is Eblana Creek South; MLS 157 is Watson Creek South; MLS 158 is Stones Creek; MLS 159 is Eblana Creek North; MLS 160 is Brett Creek North; MLS 161 is Watson Creek North and MLS 162 is Brett Creek South.

Travel north from Alice Springs via the Stuart Highway then turning right to the Plenty Highway, which runs east from the Stuart Highway, roughly sub parallel to the Plenty River, mainly on its southern side. Numerous station roads and tracks run off the Plenty Highway.

Access to the ML's is via turning off at Harts Range onto the Racecourse Road, near the end of the airstrip turn right onto station roads and travel west across the ML's. (see map)



GEOLOGY

The ELs that preceded MLs in the main lie in the flood plain of the Plenty River, with little in the way of massive outcrops save for the Riddoch Amphibolite; numerous smaller outcrops and rock bars, however, indicate that for the most part, the creek beds lie in the mid-Proterozoic metamorphic rocks of the Harts Range Group. To the west, some of the shallow feeders cut through deeply weathered and essentially undifferentiated Lower Triassic rocks, but these have no real significance in terms of the garnet genesis or resource volume.

Of the Harts Range Group rocks, the most significant are the Irindina Gneiss to the east, and the Riddoch Amphibolite to the south; both are heterogeneous, and may carry from zero to 18 volume% garnet, though the average for the Gneiss is closer to 10%. From a consideration of the regional geology, petrology and topography, it is evident that the sources of most of the garnet in the creek and river sands are the two rock units named previously.

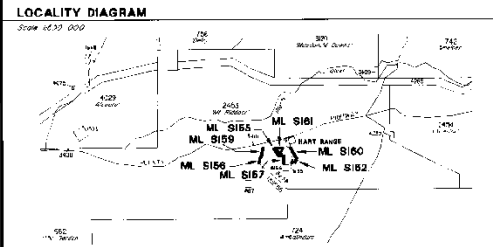
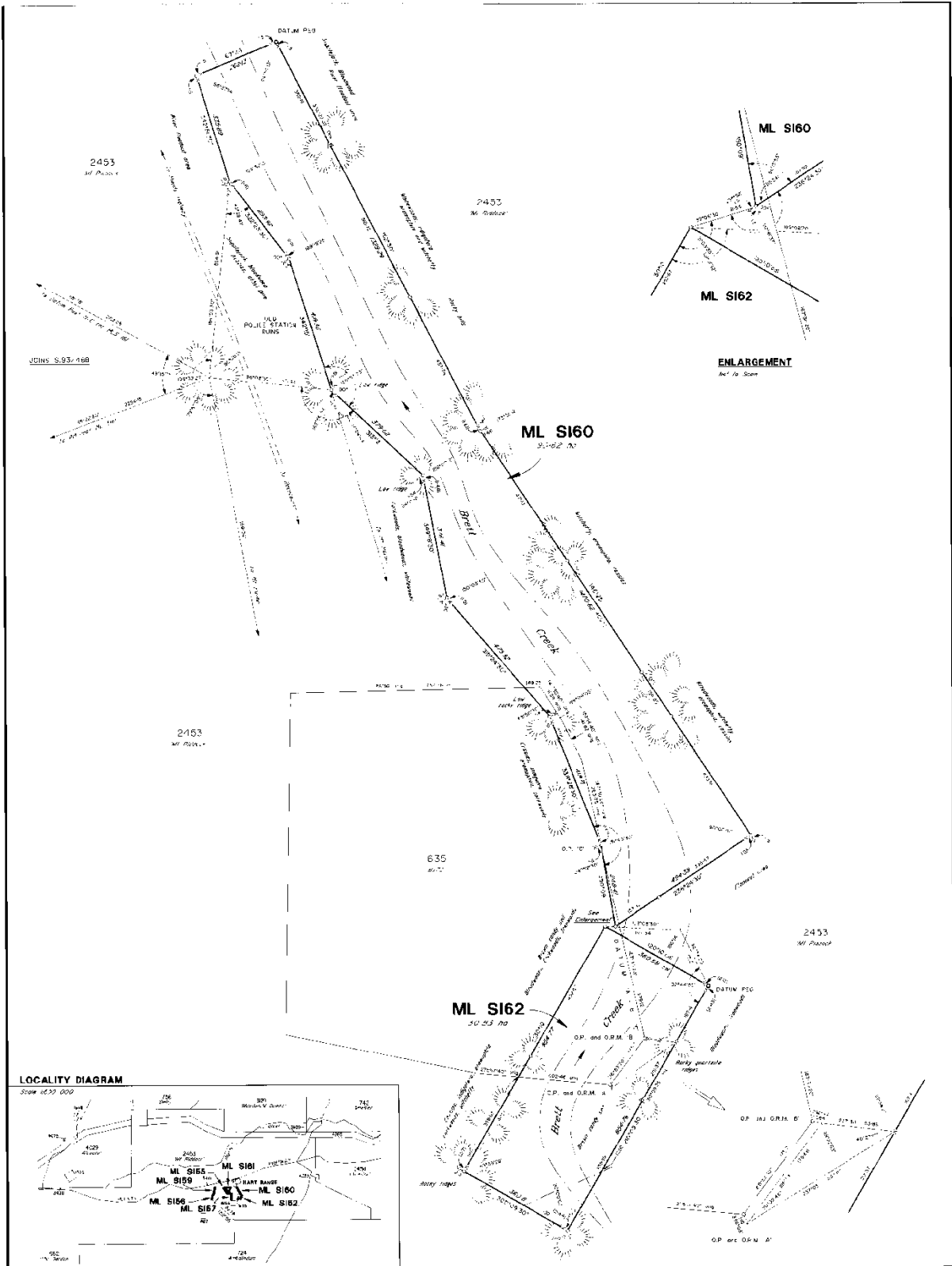
The geological-lithological distribution of rocks adjacent to the then ELs can be seen on the Alice Springs, Alcoota, Illogwa Creek and Huckitta 1:250,000 Geological maps. For a better appreciation of the distribution of petrological types, refer to the Geology of the Strangways Range Region, the Arltunga-Harts Range Special, and the Quartz 1:100,000 geological maps. Written summaries of the regional geology of the areas are presented in the notes to accompany the Geology of the Strangways Range Region, and the Arltunga-Harts Range Special 1:100,000 geological maps. There was no equivalent in print for the Quartz Geological map, however the compilation notes appear as BMR Record 23, 1982, [Shaw *et al.*]. The previous geological summary was compiled directly from the abovementioned references, which are not presented here.

METALLURGICAL AND ENGINEERING

Previously, the garnet recovered from bulk sampling was used for a number of application or “performance” tests, and was also used, in part, in the metallurgical and extraction and processing plant engineering and design study undertaken at Readings Metallurgical Services (Lismore), supervised by metallurgist, Mr Kelvin Fiedler.

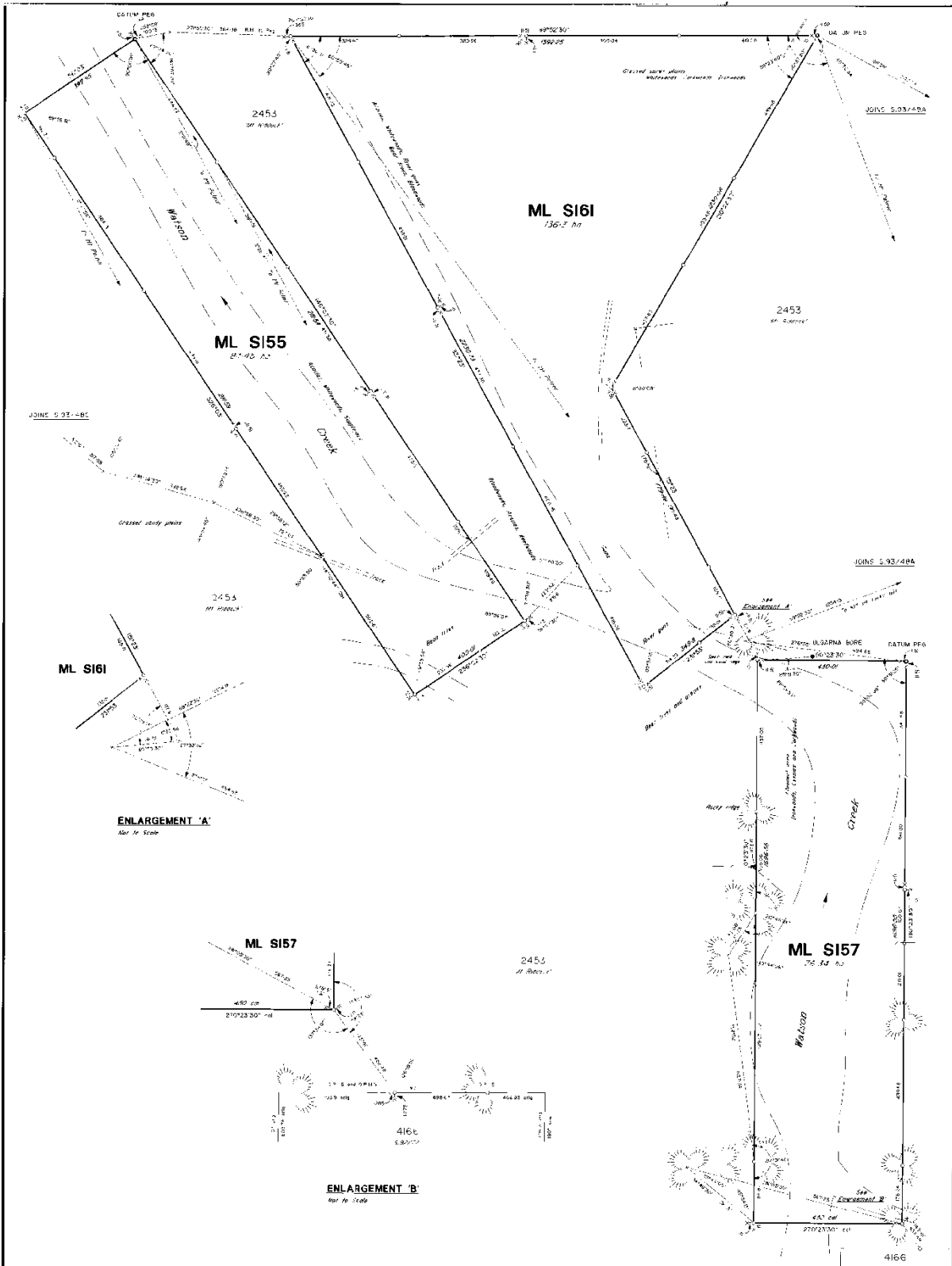
The primary part of the study was completed. The proposed plant was considered able, with little or no modification, to separate in many cases, a number of other saleable industrial minerals simultaneously with garnet. These may include one or more of magnetite, rutile, ilmenite, muscovite, biotite, the aluminosilicates, corundum, monazite and zircon.

Samples of sized garnet fractions from the bulk sampling, representing “production samples”, was sent to a number of domestic and overseas dealers and end users for their in-house testing and evaluation.



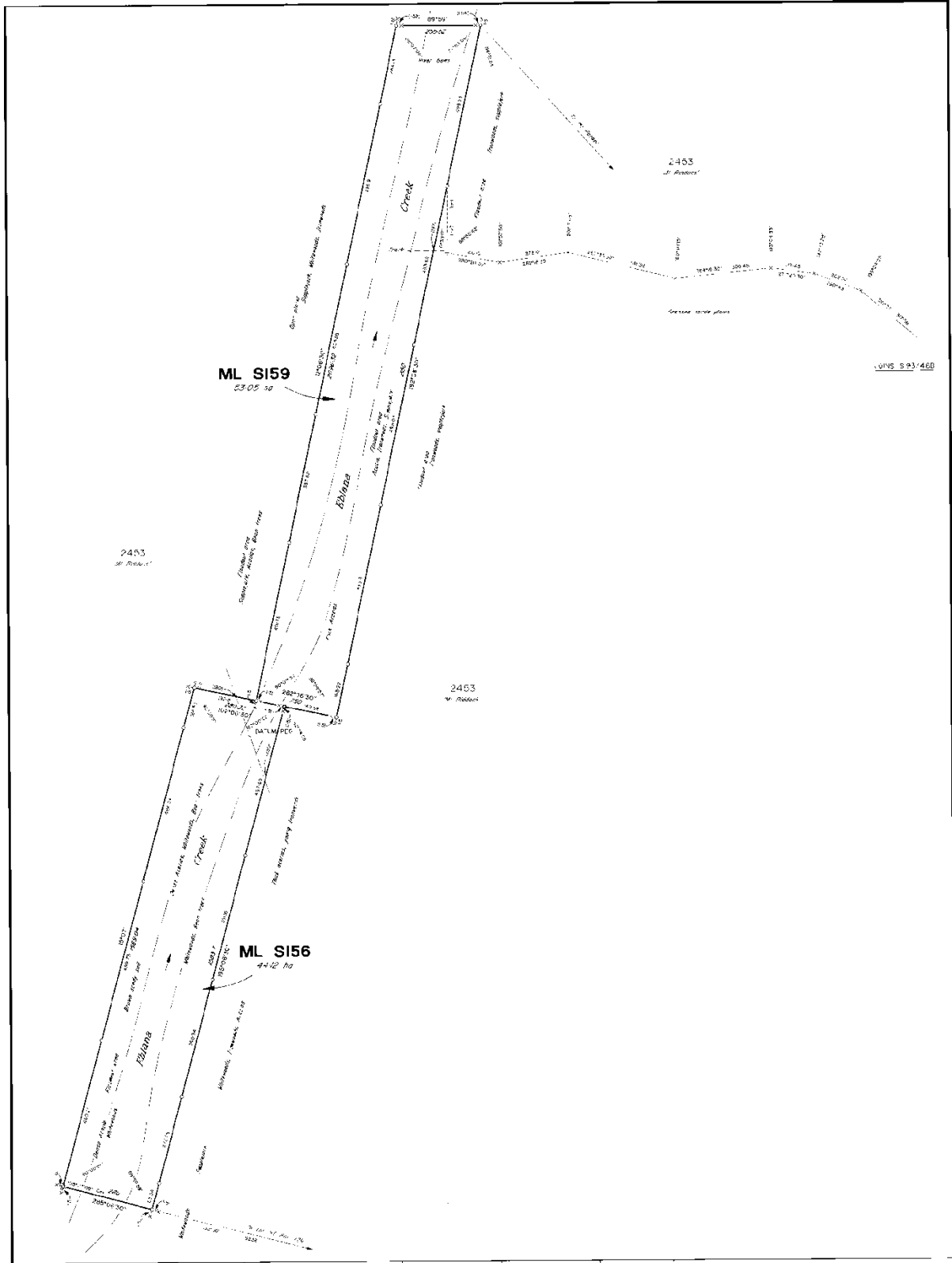
<p>Approval of Land and Planning Northern Territory</p>	<p>BRIAN JOHN BLACKMAN No. 23, 2018 Surveyor General Northern Territory</p>	<p>File No. S 93/48</p> <p>CLASSIFICATION S 1</p> <p>EXPRESS SEOTT HARVEY S 175</p> <p>Map Reference 1500 000 S-SET 20 AUDE SPRINGS</p>	<p>TRUE MB Bearings</p> <p>AZIMUTH Assumed from B 175</p>	<p>LEGEND</p> <ul style="list-style-type: none"> --- Boundary --- Contour --- Top of Alluvial Pool --- Terrace --- Lickup --- Fence Post 	<p>MINERAL LEASES S160 AND S162 <i>Mt. Riddock Locality</i></p> <p>SCALE 1:5 000</p> <p>S.93/48A SHEET 1 OF 3</p>
	<p>DATE 21.11.23</p> <p>SURVEY APPROVED</p> <p><i>R. Blackman</i> 6.1.1994</p>				

WARNING: Drawing is a reduced plan of an original plan of 60:1 reduced



	BRIAN JOHN BLAKEMAN License No. 2212 State of Colorado Surveyor	Notes: 1. This is a plat of a survey of the above described mineral leases. 2. The survey was conducted on 06/11/19.	Two Book S. 33-48 2019-11-19 2019-11-19		LEGEND Concrete - CP Concrete - CB Flag or Blotter Post Hole in Rock Iron Nail Iron Post Iron Stake	MINERAL LEASES SI55, SI57 AND SI61 <i>Mt. Riddock Locality</i> SCALE 1:5,000 S.93/48B SHEET 2 OF 3
	Surveyed by Brian Blakeman Date: 06/11/19 Survey Approved Date: 06/11/19		Prepared by SCOTT WEAVER Date: 06/11/19 1500 GDD SHELLE ZU ALICE SPRINGS			

NOTES: - Damages or stresses prior will be registered.



BRIAN JOHN BLANEHAN
 21/11/95
 SURVEY APPROVED
 R. J. Haddad
 21/11/95

Plan No.	S93/48C
Plan Name	DAUGHERTY
DATE OF SURVEY	2002
Map Scale	1:500
Sheet No.	000 SHEET 20
Sheet No.	2002 SPR 166

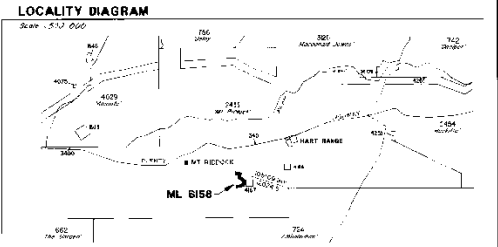
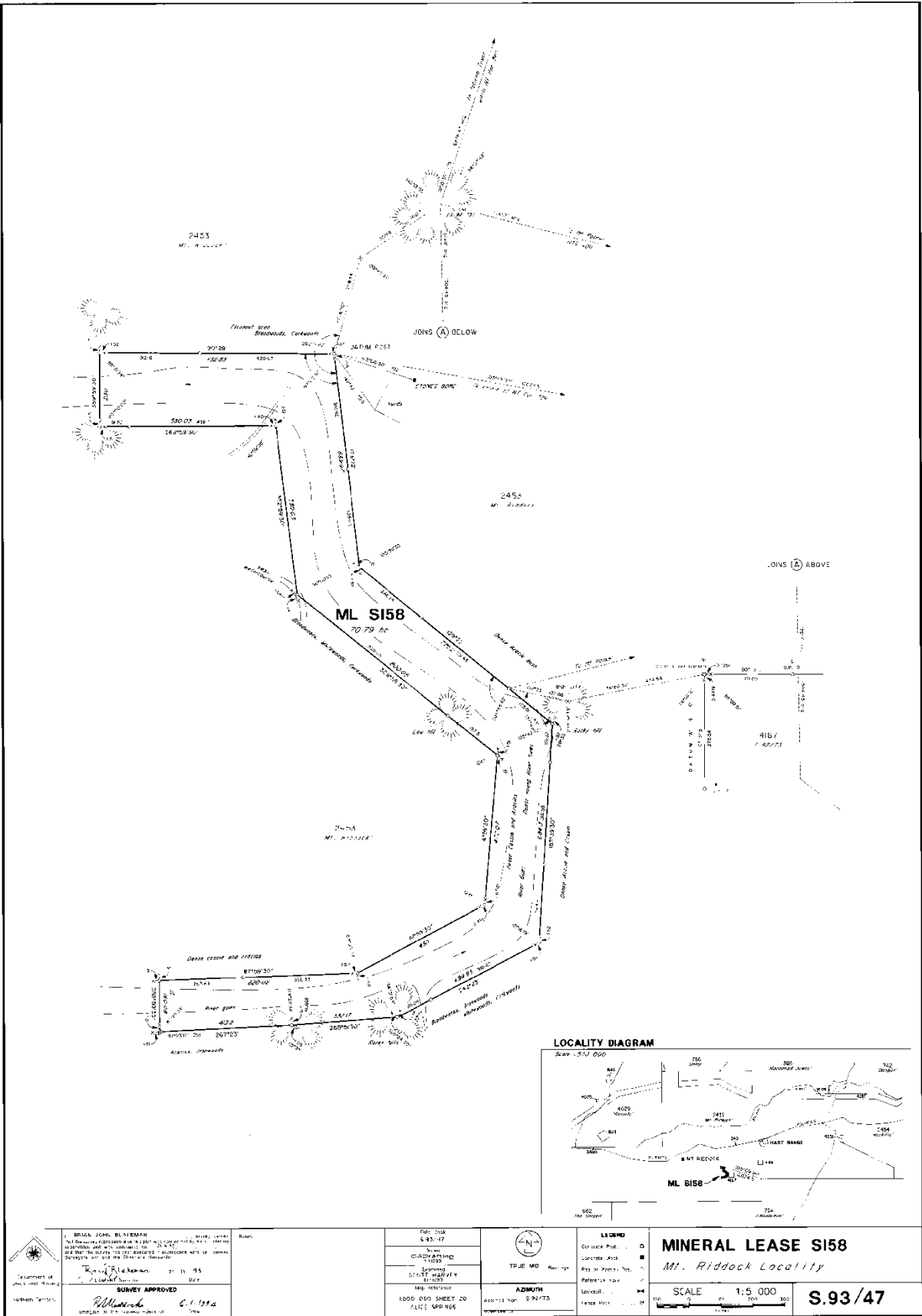
TRINITY 192, Level 10
 AZIMUTH 9.173

LEGEND

Substrate Title	▣
Substrate Area	▤
High or Another Post	⊙
Reference Mark	⊕
Water	~
Other	—

MINERAL LEASES S156 AND S159
 Mt. Riddick Locality
 SCALE 1:5 000
S.93/48C
 SHEET 3 OF 3

NOTE: The map or plan is not to be used for any other purpose.



BRUCE JOHN BLISSMAN
 1000 RVD SHEET 20
 1:50000
 1992
 SURVEY APPROVED
 21/11/94
 1:50000
 1992

PLAN BOOK
 S 93/47
 CLIPPING
 S 93/47
 1000 RVD SHEET 20
 1:50000

TRUE MD
 AZIMUTH
 S 92/73

LEGEND
 Course Mark
 Concrete Post
 Peg in Stone
 Reference Mark
 Level
 Fence Post

MINERAL LEASE S158
 Mt. Riddock Locality
 SCALE 1:5 000
S.93/47

WARNING: Diagrams or license plans will be registered.

CURRENT

While the previous metallurgical and engineering test work was comprehensive and a valuable data source, Inminerals took the view of re-evaluating the old process and recovery technology seeking new or improved techniques making the project more economic given the large distances from mine site to customer base. As such numerous discussions were held with engineering firms, ore samples were provided for fresh evaluation and test work and this reengineering work commenced. Not being overly satisfied with their performance it was decided to curtail those engineers involvement and seek alternative engineering options which meant starting the process again.

After the prospect of some new technological advancements the most recent engineering flow sheet\plant design returned the same as had already been settled on. Reassured to know the flow sheet\plant design was correct the first time, it's a little disappointing there was nothing new out there.

Even though analyses and controlled testing demonstrates ours to be superior in many ways, the flood of cheap Imports from Asia makes it tough to compete economically. Building a project like this is difficult in good times, with declining business conditions, and business sentiment everything just gets tougher. Add the recent Native Title Claim application over the bulk of Inminerals tenements and perhaps everything just got tougher again.

NATIVE TITLE

One of the main issues of concern to develop has been the lodging of a Native Title Claim application over an area of the Harts Range which covers a lot of the Inminerals tenement portfolio. Since receipt of the notification Inminerals has ceased all current and future programs until clear certain knowledge of the impact of the Native Title Claim and or effects will have on the future and viability of the project as planned.

Suffice to say, the majority of Inminerals internal resources in recent times are being utilized in the corporate arena. A document is under construction for the N.T. Mines Dept. N.T. Investment Attraction Program.

In August 2017 a representative of In Minerals Pty Ltd travelled to Darwin and engaged in in-depth discussion with the N.T. Dept. of Mines & Energy with regard to the N.T. Government Investment Attraction Program.

Encouraged by the potential of the opportunity as demonstrated by the Mines Departments dedicated team, Inminerals decided to join the Investment Attraction Program and has since worked, along with the Dept. of Mines & Energy, preparing project documentation to achieve inclusion to the list of investment ready projects.

REGULATION 126 Statement

This document and its content are the copyright of the Inminerals Pty Ltd. The document has been written for submission to the Northern Territory Department of Mines and Energy as part of the tenement reporting requirements as per the Minerals Titles Act (NT).

ML's 155 – 156 – 157 – 158 – 159 – 160 – 161 – 162 are mineral lease awaiting development therefore any information included in the report originates from historical reports and is listed in the "References" section at the end of the document. If any technical consultants in the exploration phase of the tenement included information from other Open File sources, it is unknown to the document writer, the 'relevant person'. Inminerals Pty Ltd authorises the department to copy and distribute the report and associated data at these tenements expiry.

REFERENCES

- EL7914 Chambigne Resources Pty Ltd 1993; 1994; 1995; 1996
- EL8004 Chambigne Resources Pty Ltd 1993; 1994; 1995; 1996
- EL8076 Chambigne Resources Pty Ltd 1994; 1995; 1996; 1997; 1998
- EL8384 Chambigne Resources Pty Ltd 1994; 1995; 1996; 1997; 1998
- EL8423 Chambigne Resources Pty Ltd 1994; 1995; 1996; 1997; 1998
- EL8829 Chambigne Garnet Pty Ltd 1993; 1994; 1995; 1996; 1997; 1998; 1999
- EL6940 Clarence River Finance Group Pty Ltd 1994; 1995; 1996
- EL7788 Clarence River Finance Group Pty Ltd 1994; 1995; 1996
- EL9240 Clarence River Finance Group Pty Ltd 1996; 1997; 1998; 1999; 2000; 2001
2002; 2003; 2004; 2005; 2006; 2007
- EL9595 Chambigne Garnet Pty Ltd; Inminerals Pty Ltd 2003; 2004; 2005
- MLS155-162 Clarence River Finance Group Pty Ltd; Chambigne Garnet Pty Ltd;
Inminerals Pty Ltd 1995 through 2016 inclusive
- MCS245-249 Chambigne Resources Pty Ltd;
Inminerals Pty Ltd 2004 through 2014 inclusive
- MLS177; 178; 179; 182; 183; 184; 185
Chambigne Garnet Pty Ltd; Inminerals Pty Ltd 2012; 2013; 2014